IN THE SPECIFICATION:

Page 1, before line 1, please insert the following heading: -- Title of the Invention --;

Page 1, after line 1, please insert the following heading: -- Field of the Invention --;

Page 1, after line 5, please insert the following heading: -- Background of the Invention --;

Page 1, after line 29, please insert the following heading: -- Summary of the Invention --;

Page 5, after line 5, please insert the following heading: -- Brief Description of the Drawings --;

Page 6, after line 6, please insert the following heading: -- Detailed Description of the Invention --;

Please delete the paragraph at Page 7 lines 7-20 and insert the following paragraph as amended:

Each annular member 30 has a radially outer axially extending portion 32, a radially inner axially extending portion 36 and an intermediate axially extending portion 34 radially between the radially outer axially extending portion 32 and the radially inner axially extending portion 36. A bend portion 33 extends radially to connect the upstream end of the radially outer axially extending portion 32 and the upstream end of the intermediate axially extending portion 34. A bend portion 35 extends radially to connect the downstream end of the intermediate axially extending portion 34 and the downstream end of the radially inner axially extending portion 36. Each annular member 30 is thus generally S-shaped in

cross-section in a radial plane containing the axis of the compressor and gas turbine engine.

Please delete the paragraphs at Page 9 line 16 bridging over to Page 12 line 13 and insert the following paragraphs as amended:

In operation of the turbofan gas turbine engine 10 the circumferential and radial corrugations [[32]] <u>37</u> and [[34]] <u>38</u> of the annular member 30 allow sufficient circumferential strain to take up excessive tip clearance 29 as well as radial strain the annular member 30 between high pressure gas downstream of the annular member 30 and low pressure gas upstream of the annular member 30. The annular member 30 provides a pressure balance effect, which to a first order removes the net radial force on the annular member 30 and lining 40, thus significantly reducing the force required to move the annular member 30 and hence control the clearance 29.

The embodiment of compressor rotor blade tip seal 48B in figure 4 is substantially the same as ~~that~~ <u>the compressor rotor blade tip seal 48</u> in [[figure]] <u>figure</u> 2 ~~and 3~~ but additionally comprises a sensor 50 arranged within the lining 40 to measure the clearance 29 between the tips 27 of the compressor rotor blades 26 and the lining 40. The sensor 50 preferably comprises a capacitance sensor, capacitance sensors are capable of operating up to 1400°C and are very accurate and reliable. The sensor 50 is electrically connected to a processor unit 61 by an electrical wire 51. A member 52 extends radially from one axial end of the lining 40 towards an aperture 54 in the compressor casing 28 to an actuator 56. The member 52 and lining 40 together form an L-shaped member to move the annular member 30 radially. The actuator 56 comprises a stack of piezoelectric actuators 58 arranged in contact with a fluid filled sealed bellows amplifier 60. The fluid filled sealed bellows amplifier 60 acts on the member 52 to move the member 52 radially. The piezoelectric actuator 58 is positioned outside the compressor casing 28 at a position such that its temperature may be maintained below about 150°C. The piezoelectric actuator 58 is electrically connected to the processor unit 61 by electrical cables 53 and 55.

Preferably the annular member 30 is provided with a thin electrically insulating material and one or more thin electrically conducting tracks are provided on the insulating layer to form the electric cable 51 from the sensor 50 to the processor unit 61. The electrically conducting tracks simply flex with the annular member 30 and provide a simple safe way of connecting the sensor 50 and the processor unit 61 without the electric cable [[61]] 51 being in a position where it is susceptible to damage.

In operation the sensor 50 measures the clearance 29 between the tips 27 of the compressor rotor blades 26 and the lining 40. The sensor 50 sends a signal indicative of the clearance to the processor unit 61. The processor unit 61 then sends electrical signals to the piezoelectric actuator 56 to decrease, or increase, the thickness of the piezoelectric actuator 56 in order to expand, or contract, the fluid filled sealed bellows amplifier 60, which in turn moves the member 52 radially outwardly, or inwardly. The radial movement of the member [[53]] 52 adjusts the radial position of the annular member 30 and lining 40 and hence controls the clearance 29.

The embodiment of compressor rotor blade tip seal 48C in figure 5 is similar to ~~that~~ the compressor rotor blade tip seal 48B shown in figure 4 but differs in that the actuator 56 comprises a flexural amplified piezoelectric actuator, which comprises a stack of piezoelectric actuators 62 and a flexural amplifier 64. The flexural amplifier 64 acts on the member 52, which extends through the aperture 54 in the compressor casing 28.

The embodiment of compressor rotor blade tip seal 48D in figure 6 comprises a plurality of shape memory alloy wires 66 and each shape memory alloy wire 66 extends over a circumferential portion of the radially inner limb 80 of the radially inner axially extending portion 36 of the annular member 30. Each of the shape memory alloy wires 66 is connected to a supply of electricity 68 via a switch 70. The supply of electricity 68 and the switch 70 is arranged to supply an electric current to the shape memory alloy wire 66 to heat the shape memory alloy wire 66. The processor unit 61 supplies electrical signals to the supply of electricity 68 and the switches 70. The processor unit 61 sends signals to the

supply of electricity 68 to adjust the size of the current and hence the heating effect in the shape memory alloy wires 66.

The processor unit 61 may send electrical signals to close all of the switches 70 to heat all of the shape memory alloy wires 66 to move the full circumference of the radially inner axially extending portion 36 of the annular member 30 radially to adjust the clearance 29.

Alternatively, the processor unit 61 may supply electrical signals to the supply of electricity 68 and to close one or more of the switches 70 to heat one or more of the shape memory alloy wires 66 to move one or more circumferential portions of the radially inner axially extending portion 36 of the annular member 30 radially to adjust the clearance 29 at one or more circumferential portions.

The embodiment of compressor rotor blade tip seal 48E in figure 7 comprises a supply of fluid 72 and a valve 74. The annular member 30 is hollow and has a chamber 76. The processor unit 61 sends signals to the valve 74 and the valve 74 is arranged to allow the supply of fluid from the supply of fluid 72 to the chamber 76 in the hollow annular member 30 or to vent fluid from the chamber 76 in the hollow annular member 30. The supply of fluid into the chamber 76 moves the radially inner axially extending portion 36 of the annular member 30 radially inwardly to adjust the clearance 29 and the venting of fluid out of the chamber 76 moves the radially inner axially extending portion 36 of the annular member 30 radially outwardly to adjust the clearance 29. The supply of fluid 72 may be air from a suitable position in the compressor section 16 of the turbofan gas turbine engine 10.

Please delete the paragraph at Page 12 line 32 bridging over to Page 13 line 8 and insert the following paragraph as amended:

One possibility is to vary the relative size of the corrugations in the intermediate axially extending portion 34 and the radially inner axially extending portion 36 at different circumferential directions as shown in figures 8 to 10. Figure 8 shows the position of the bending neutral axis X relative to the annular member 30 and figures 9 and 10 show different heights of the axially extending

corrugations 37 between the intermediate axially extending portion 34 and the radially inner axially extending portion 36 at each of the circumferentially spaced positions A and B, different heights of the axially extending corrugations 37 of the intermediate axially extending portion 34 at the positions A and B and different heights of the axially extending corrugations 37 of the radially inner axially extending portion 36 at the positions A and B.